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PATENT COOPERATION TREATY

PCT/EP2004/012711  
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From the INTERNATIONAL BUREAU

**PCT**  
NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:

VA TECH PATENTE GMBH & CO  
Stahlstrasse 21a  
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AUTRICHE

AMR  
Date of mailing (day/month/year)  
09 November 2006 (09.11.2006)

Applicant's or agent's file reference  
A401052WO

2003 P96035WO

IMPORTANT NOTIFICATION

International application No.  
PCT/EP2004/012711

International filing date (day/month/year)  
10 November 2004 (10.11.2004)

Applicant

VOEST-ALPINE INDUSTRIEANLAGENBAU GMBH & CO et al

1. Transmittal of the translation to the applicant.

☐

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).

☒

The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

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The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

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**TRANSLATION**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>A401052WO</b>	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. <b>PCT/EP2004/012711</b>	International filing date (day/month/year) <b>10.11.2004</b>	Priority date (day/month/year) <b>02.12.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>B22D11/103, B22D11/18, B22D11/118</b>		
Applicant <b>VOEST-ALPINE INDUSTRIEANLAGENBAU GMBH &amp; CO</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.	
2. This REPORT consists of a total of <u>8</u> sheets, including this cover sheet.	
3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).	
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input checked="" type="checkbox"/> Box No. VII Certain defects in the international application <input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application	

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/012711

Box No. I

Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-16 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 1-20 \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1/6-6/6 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
1. Statement	
Novelty (N)	Claims <u>1-20</u> YES Claims _____ NO
Inventive step (IS)	Claims <u>1-20</u> YES Claims _____ NO
Industrial applicability (IA)	Claims <u>1-20</u> YES Claims _____ NO
2. Citations and explanations (Rule 70.7)	
1.)	Reference is made to the following documents:  D1: EP 0 887 129 A D2: PATENT ABSTRACTS OF JAPAN, Vol. 009, No. 297 (M-432), 25 November 1985 (1985-11-25) -&; JP 60 133957 A (KAWASAKI SEITETSU KK), 17 July 1985 (1985-07-17)
2.)	Novelty:  Document D1, which is regarded as the <b>closest prior art</b> , discloses a sequential casting method for the continuous production of a highly pure cast metal billet from a molten metal, preferably molten steel, the molten metal being fed in a controlled manner from a melt container to a distributor vessel and being conducted in a controlled manner from the distributor vessel into a continuous casting mould, the supply of molten metal to the distributor vessel being interrupted whilst the melt vessel is changed, whilst the supply of molten metal into the continuous casting mould is continued.

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

The subject matter of main claim 1 **differs** from the available prior art in that during a period of time from the resumption of supplying the molten metal to the distributor vessel until a quasi-stationary operating bath level is reached in the distributor vessel, the supply rate into the distributor vessel is greater than the discharge rate from the distributor vessel, and for 70% to 100% of that period, the supply rate into the distributor vessel is  $\leq$  (less than or equal to) to double the discharge rate from the distributor vessel.

The subject matter of the claim is thus **novel** (PCT Article 33(2)).

3.) Inventive step:

The solution proposed in claim 1 for preventing foreign particles from entering into the molten metal and therefore for casting highly pure billets is neither disclosed by nor obvious from the closest prior art. An inventive step (PCT Article 33(3)) is therefore acknowledged in relation to claim 1.

4.) Dependent claims 2-20

Dependent claims 2-20 specify advantageous procedures relating to the method claimed in claim 1 and are therefore also novel and involve

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

an inventive step.

5.) Industrial applicability:

Since the method can be used to handle melts in the casting industry, the invention is industrially applicable.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

a.)

Contrary to PCT Rule 5.1(a)(ii), the description does not cite documents D1 and D2 or indicate the relevant prior art disclosed therein.

b.)

Pursuant to PCT Rule 10.2, the terminology and reference signs should be consistent throughout the application. This requirement is not satisfied by the use of the terms melt container (see claim 1, line 3) and melt vessel (see claim 1, line 7) for the same feature.

c )

The features of the claims are not consistently followed by reference signs placed between parentheses (PCT Rule 6.2(b)).

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

a.)

The word "substantially" in claim 4 is vague and unclear and leaves the reader uncertain as to the meaning of the technical feature in question. As a result, the subject matter of said claim is not clearly defined (PCT Article 6).

b.)

Claims 1, 4, 7, 8, 10, 11, 13, 15 and 17 are unclear.

Pursuant to PCT Article 6, the claims must be concise. Wording such as "in particular" and "preferably" does not restrict the scope of protection of the claims, i.e. the feature following such wording is considered entirely optional.

c)

In the light of the application as a whole, claim 17 appears to contain a misprint. Line 3 of claim 17 contains the information "1% to 30%", when it appears that what must be intended is "0.1% to 30%" (see, for example, claim 4 and the fourth paragraph on page 4 of the description).

d.)

Claim 8 is also unclear. Claims 1-7 do not mention a shadow tube and therefore claim 8 also

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. VIII Certain observations on the international application

should not refer to the shadow tube. The indefinite article should be used here (a shadow tube).